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DEC 14 1998

Mr. James A. Saric, Remedial Project Manager
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Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0174-99

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

RESPONSE ACTIONS RELATED TO RESIDUE INCIDENTS AT THE ON-SITE DISPOSAL FACILITY

The purpose of this letter is to transmit a copy of "Response Actions Related to Residue Incidents at the On-Site Disposal Facility." This document describes actions taken in response to an October 14, 1998, incident in which approximately eight ounces of yellow cake were identified at Cell Number 1 of the On-Site Disposal Facility (OSDF), and clarified response actions that will be taken for any future residue incidents.

If you have any questions, please contact Pete Yerace at (513) 648-3161.

Sincerely,

FEMP:Yerace

Johnny W. Reising
Fernald Remedial Action
Project Manager

Enclosure

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Mr. James A. Saric
Mr. Tom Schneider

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cc w/enclosure:

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**RESPONSE ACTIONS
RELATED TO
RESIDUE INCIDENTS AT THE ON-SITE DISPOSAL FACILITY**

The purpose of this document is to describe actions taken in response to an October 14, 1998, incident in which approximately eight (8) ounces of process residue were identified at Cell No. 1 of the On-Site Disposal Facility (OSDF), and to clarify required response actions for any future incidents. Process residues are prohibited by the *Waste Acceptance Criteria (WAC) Attainment Plan for the OSDF (20100-PL-0014, January 1998)*.

BACKGROUND

The eight (8) ounces of process residue originated from the east portion of Stockpile No. SWU-004 in the Southern Waste Units (SWU). Inventory staged in this stockpile was generated during site preparations activities, originating primarily from the excavation of Sediment Basin Numbers 1, 2, and 3. Numerous prohibited items, including residues, were discovered during excavation of the north edge of Sediment Basin No. 2. These items were segregated, containerized, and transferred to Fluor Daniel Fernald (FDF) storage facilities for off-site disposition. The SWU-004 stockpile was declared WAC compliant based on these segregation efforts and pre-excavation sample results.

While there was a waste support field presence during site prep activities, oversight activities were not fully implemented until early this year when the Waste Acceptance Organization (WAO) was established, staffed, and mobilized. WAO's charter is to provide oversight of generator and OSDF activities for compliance with the *WAC Attainment Plan for the OSDF*, including a full time field presence during excavation and material placement activities. As part of these oversight activities, WAO identifies prohibited materials as they are excavated, and verifies that they are segregated from OSDF-bound waste streams. WAO also performs a final check for prohibited items at the OSDF as waste material is dumped and spread. Identification of the residue at Cell No. 1 on October 14, and its subsequent removal, demonstrates the success of this system of multiple checks to effectively prevent inadvertent disposal of prohibited items in the OSDF.

INCIDENT RESPONSE

On October 14, soil was being hauled from the SWU-004 stockpile for use in placing debris in OSDF Cell No. 1. Manifests for the truckloads of material were reviewed upon arrival at the OSDF, and the loads dumped. The approximately eight (8) ounces of yellow-colored process residue were identified by WAO personnel during spreading of a dumped load. The area was surveyed with a frisker to establish health and safety requirements. All visible residue was removed using hand equipment and placed in a plastic bag. An additional 1/4 cubic yard of soil and fly ash from the immediate vicinity of the residue was then removed, and the area re-frisked. Readings indicated that radiological levels for the remaining soils were the same as those in unaffected portions of the grid.

The "Material Rejection/Return" section of the manifest was completed by WAO personnel at Cell No. 1. The bag of residue/soil/fly ash mixture was placed on the next truck and returned with the manifest to SWU-004. The bagged material was placed in a white metal box marked with a red "Above WAC" placard. The material will be characterized and evaluated for off-site facility WAC.

Upon receiving notification that process residue had been discovered at Cell No. 1, WAO management verified staff positions at the SWU-004 stockpile. A direct load out excavation approach was being used, with WAO staff positioned at an up gradient position immediately outside the swing radius of the bucket. A second WAO person was positioned at the road to complete manifests and place them in carrier tubes on the trucks. Both WAO personnel had cellular phones, which allowed communication from the up gradient viewing position to the manifesting position, should there be any cause to question the WAC status of the loaded material.

FDF Construction was contacted regarding use of the direct load out approach; their response was prompt. Load out activities were moved from the SWU-004 stockpile to the Inactive Fly Ash pile, pending further discussion, issue resolution, and a path forward consensus. Subsequent excavation of SWU-004 has proceeded by individual lifts with a dozer and loading out from the resulting pile.

CLARIFICATION FOR FUTURE RESPONSE ACTIONS

WAO's oversight program, as implemented this construction season, has been highly successful in preventing disposal of prohibited material in the OSDF. Controls implemented at the generating source have prevented the introduction of residue material to the OSDF, with the exception of one (1) truck. The system clearly is working, as evidenced by statistics (i.e., only 0.02% of all trucks arriving at the OSDF contained process residue material). Still, this one instance of a residue reaching the OSDF provides a good opportunity for assessing potential causes, and subsequently enhancing the waste acceptance program.

Assessment of the October 14 residue incident led to some clarifications and changes for excavation, material rejection, and confirmatory sampling. The resulting system enhancements are focused on minimizing the potential for prohibited materials to reach the OSDF, and on identifying formal requirements in the event of another residue incident. Actions taken to implement the clarifications and changes are identified below.

- ❖ FDF Construction has been apprized that the preferred excavation method in areas at or similar to the SWUs is pushing individual lifts with a dozer to a load out pile, within the confines of operational constraints. This method affords WAO a viewing vantage point that is relatively close to the dozer operation, while providing a second opportunity for material inspection as it is loaded out with an excavator (e.g., track hoe). Operational constraints that do not allow pushing lifts in conjunction with an excavator usually involve steep slopes (e.g., ditches). Opportunities for viewing have been available in these cases due to

interim staging of material. If situations are encountered where excavator operations do not include temporary staging, WAO will coordinate with FDF Construction on a case-by-case basis to introduce opportunities for viewing of material.

- ❖ FDF Construction has been apprized that if a residue-like material should reach the OSDF, the impacted area must be cordoned off. The extent of the impacted area will be defined through visual observations and frisker readings. All visible residue and a minimum of one (1) cubic yard (cy) of surrounding soil will be excavated from the immediate area. When excavation is complete, WAO will direct confirmatory sampling using real time instrumentation (i.e., HPGe). If initial sample results exceed the WAC, additional one (1) cy volumes must be removed, with sampling repeated until "meets WAC" results are achieved. Bounding with a frisker, over excavating a conservative volume, and confirming removal with HPGe is consistent with the approach used at source excavations for removing isolated residue pockets.
- ❖ FDF Soil Characterization and Excavation Project (SCEP) management has been apprized that there needs to be closer coordination with WAO during decision-making processes relevant to WAC compliant status, e.g., WAO has requested additional information regarding refusal and void space from previous borings at the Active Fly Ash Pile before declaring it approved for OSDF disposal.

CONCLUSIONS

A summary of the changes that have been introduced to the waste acceptance program is provided below:

- ❖ Increased WAO input regarding excavation methods that provide opportunities for viewing material;
- ❖ Increased coordination between SCEP and WAO regarding WAC compliant status of candidate material;
- ❖ Implementation of guidelines regarding the volume of material that will require excavation at the OSDF when responding to any residue incidents; and
- ❖ Introduction of a WAO driven confirmatory sampling program for response to any residue incidents at the OSDF.

Revisions to site procedures are in progress to formalize these requirements. Review of the *WAC Attainment Plan for the OSDF* indicates that these system enhancements do not impact our overall WAC compliance strategy. Therefore, modification of that document will not be required.

WAO will continue to assess the approach used to implement programmatic controls for waste acceptance. Any forthcoming modifications will be discussed with DOE and the EPAs prior to implementation.

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